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## Inertia Sensor

### 1. Field of the Invention:

The invention relates to an inertia sensor, and in particular, to a device with inertia mass, which size may be changed, formed upon suspension structure by micro-electroplating process.

### 5 2. Background of the Invention:

Currently, there are roughly four kinds of manufacturing techniques in Micro Electric Mechanical System (MEMS) applied for inertia sensor: surface micromachining, bulk micromachining, LIGA process, and other micromachining techniques.

10       Wherein, the surface micromachining is to apply thin film deposition and etching technique of semiconductor process to manufacture MEMS elements on chips. As shown in Fig. 1, the steps for constructing suspension structure by surface micromachining may be classified as follows:

15       (a) Depositing isolation layer 2 upon silicon wafer 1.

      (b) Depositing sacrificial layer 3 upon isolation layer

2.

      (c) Etching sacrificial layer 3 using lithography process.

      (d) Depositing a suspension structure layer 4 upon the  
20   sacrificial layer 3.